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THE GARDEN CALENDAR

Department of Agriculture

A radio discussion by W. R. Beattie, Bureau of Plant Industry, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast over the NBC network of radio stations, Monday, July 26, 1937.

Hello folks. One day last week the messenger in our office laid a copy of a printed circular on my desk. Now there is nothing unusual about that for a great many circulars and bulletins come to my desk in the course of a year, but one glance at this circular caused me to read it clear through from start to finish. It is Department Circular No. 441 and the title is "Development of Powdery Mildew Resistant Cantaloup No. 45."

Last week in my garden calendar talk I told you something about the methods of selecting a good watermelon or cantaloup and mentioned the fact that varieties of both watermelons and cantaloups or muskmelons are being developed that are resistant to certain diseases. As you know the cantaloup industry has grown by leaps and bounds, especially in California and other Western States. In 1929 California alone shipped 26,850 cars of cantaloups, or about two-thirds of the total shipments. During recent years the number of cars shipped out of California has dropped to about 13,000 cars but you'll agree with me, that's a lot of cantaloups.

Getting back to what I started out to tell you about Circular 441, back in 1925, right out of a clear sky, the disease known as powdery mildew suddenly appeared in destructive form on cantaloups and muskmelons generally in the Imperial Valley of California and due to the fact that the ordinary fungicides like Bordeaux mixture had little effect in the control of this mildew it looked for a time as though the industry was doomed.

When we get sick if the case is serious we send for the doctor and if not serious we try to cure ourselves by taking home remedies. Well, in this case the home remedies all failed and so the doctors, the pathologists or plant doctors I mean, were called in and in 1926 the late Dr. J. T. Rosa of the California Experiment Station and Dr. I. C. Jagger of the Department of Agriculture started on the job of developing varieties of muskmelons or cantaloups resistant to the attacks of the mildew.

The first move was to get from all parts of the world varieties of cantaloups and plant them in California under mildew conditions and right alongside of the ordinary varieties that were suffering most from the disease. That season numerous plants in several mixed varieties from India remained entirely free from mildew, but unfortunately the fruits on all of these mildew-free plants were commercially useless because of poor shipping and eating qualities. The next move was to make crosses with several of the leading American varieties. Mildew resistance was found to be inherited in the plants resulting from these crosses, but the qualities that make for a good market melon were still lacking.

I suppose most of us would have stopped right there and said it couldn't be done, but not these intrepid workers. Following the untimely death of Dr. Rosa in 1928, his place was taken by Mr. G. W. Scott of the California Experiment Station and together with Mr. Jagger they proceeded to make what are called "back crosses" using the best American varieties as one of the parents and the mildew immune hybrids as the other. The work was done in the Imperial Valley where both a spring and fall crop could be grown in order to hurry up the work, but even with this advantage it has taken several years to get real results.

The result of this work is Powdery Mildew Resistant Cantaloup No. 45, otherwise known as Hale Best No. 45 because Hale Best was used as one of the parents. When you consider that Hale Best has in the past been one of the leading varieties planted the country over and that the Hale Best No. 45 is even an improvement over the original you can get some idea of the value of the new resistant hybrid. No. 45 seems to be better adapted for harvesting field-ripe than most varieties and can be picked practically ripe in the Imperial and yet reach the eastern markets in prime condition for eating. The No. 45 is being tried in different parts of the country but it is of the greatest value to the growers in the regions where the mildew is destructive.

The Department of Agriculture has no seed of Powdery Mildew Resistant No. 45 for distribution. It is in the trade and seed can be procured from the regular seedsmen. Incidentally Dr. Jagger and his coworker Mr. Scott have not ceased their efforts but are going right ahead to make the best better and to further improve the resistant varieties.